(1827); Spring, Mon. Lycop i. 78 (1841). *L. pungens* La Pylaie acc. to Desv. l. c.—Exposed rocky or peaty habitats, Greenland, Labrador and Newfoundland to the mountains of northern New England, the eastern coast of Maine, and northern Minnesota; also eastern Asia; and in the Tyrol (according to Luerssen).[1]

Var. ALPESTRE Hartm. Skand. Fl. ed. 2, 294 (1832).—Northern Europe and northwestern North America. BRITISH COLUMBIA: Mt. Arrowsmith, Vancouver Island, July 17, 1887, *J. Macoun*, no. 11,519. ALASKA: top of high hill, Ilinlink, Unalaska, October 1, 1871, *M. W. Harrington*.

Vars. *alpestre* and *pungens* seem to be the alpine and boreal extremes of the two woodland plants of more temperate habitats, true *L. annotinum* and var. *acrifolium*. It is specially noteworthy, therefore, that the flat- and broad-leaved var. *alpestre* of northern Europe should have been found in North America only at the northwestern edge of the continent, although in the East the flat- and broad-leaved typical woodland *L. annotinum* abounds. It is also noteworthy that the two plants with firm rigid entire and acerose-attenuate leaves, vars. *acrifolium* and *pungens*, widely distributed in northeastern America, should be unknown from western North America and rare or unknown in Europe, but both present in northern Asia. The ranges of these varieties thus fall essentially into the definite groupings — Europe and western America, eastern America and Asia — already familiar in hundreds of other cases.

GRAY HERBARIUM.

ANTENNARIA CANADENSIS IN PENNSYLVANIA.

HAROLD W. PRETZ.

IN his article, entitled "Southerly Range Extensions in Antennaria,"[2] Mr. Bayard Long makes the following statement: "Although *Antennaria canadensis* has not yet, to the best of my knowledge, been collected between the Catskills and Natural Bridge, I feel that

[1] Luerssen does not recognize var. *alpestre*, and it is probable that the plant of the Tyrol referred by him to the American var. *pungens* may prove to be the European var. *alpestre*.

[2] RHODORA XV. 121 (1913).

with future work in the Alleghanies its occurrence in Pennsylvania will be established."

With some material sent to the Academy of Natural Sciences in Philadelphia in the autumn of 1913 was an *Antennaria* collected on May 4th. of that year along the road near the Behrens Farm situated on the plateau about $3\frac{1}{2}$ miles northeast of East Mauch Chunk, Pennsylvania. Mr. Bayard Long referred the plant, though immature, to *A. canadensis* Greene, a determination that was later confirmed by Prof. M. L. Fernald, who fortunately happened to visit the Academy at this time.

This collection, though quite satisfactory as far as record was concerned, nevertheless made it highly desirable that more mature material be collected as well as that some data be secured relative to the local distribution of the plant. It was accordingly arranged that the following spring a joint trip by Mr. Long and the writer be made to the region of this collection. On May 16, 1914, Mr. Long visited the writer and on the morning of the 17th., in company with Messrs. E. S. and W. I. Mattern, the writer's companions in field work, a start was made for this region which lies about thirty miles distant to the northwest of Allentown, Pennsylvania.

This plateau or mountain region is known as the Pohopoco Mountains, but it is really a part, or extension to the west and southwest, of the well known Pocono Plateau. The continuation of the plateau still further west across the "Gorge" of the Lehigh river is known as Broad Mountain. Botanically the entire plateau region offers a most interesting field, but it would be quite outside the scope of this note to make any further reference to it except to note that the immediate region of this collection is south of the Terminal Moraine and that the Canadian is not so strong an element in this association as in that of the typical Pocono region, which is so rich in species of general Canadian association.

East Mauch Chunk lies along the Lehigh river practically against an escarpment of this general plateau region. It is built on a hill well above the level of the river. At the highest point in the town there are several open fields, and as Antennarias were the chief object of this excursion into the region a stop was made here. It took but a few minutes to discover *A. canadensis* in fair frequency in this field. It grew in isolated patches, or mats, and quite agreed in form and habit with the plant as Mr. Long knew it in its northern range.

Associated with it in the same field were *A. fallax* Greene, *A. neodioica* Greene, *A. neglecta* Greene and *A. Parlinii* Fernald. The elevation of this field according to Mr. W. B. Tombler, City Engineer of East Mauch Chunk, is 829.5 feet.

From this point a single road leads gradually up the steep escarpment to the plateau. This road crosses the plateau and finally reaches the "Poconos," passing several places where there are farms or clearings. Other roads branch off in different directions. The roadsides and clearings in the vicinity of these farms offer the most favorable habitats for Antennarias, for commonly a rather dense scrub association closely borders the roads.

There were few Antennarias seen on the trip of several miles across the plateau past the clearings but in the vicinity of the Behrens Farm where the original collection was made, two small mats of *A. canadensis* were found less than $\frac{1}{2}$ mile apart. The elevation of the plateau at this point is approximately 1600 feet. Shrubby vegetation was coming into leaf in the valley near East Mauch Chunk, but was less advanced on the plateau, and Mr. Long observed that the Scrub Oak here was advanced in seasonal growth about as far as the same species on the New Jersey coastal plain noted by him a month previous. Though the rest of the day was pleasantly spent in the region no more *A. canadensis* was seen.

Since this trip was made the writer has crossed Broad Mountain but no *A. canadensis* was discovered though it was looked for. At one place only along the "pike" over Broad Mountain, extending from near Mauch Chunk to Hudsondale, *A. neodioica* was seen. This species was seen also along the railroad near Hudsondale. Rain unfortunately prevented the thorough examination of some promising areas near Weatherly, and in crossing them only *A. neodioica* was seen. Other brief excursions have been made into the higher mountains further north by northwest, but no *A. canadensis* has been discovered. Possibly, as Mr. Long suggests, the lower, rather than the higher, slopes of the Alleghanies may prove to be the more favorable habitats.

In the writer's own county of Lehigh, Pennsylvania, Antennarias are frequent to abundant. Although plants referred to *A. petaloidea* and *A. occidentalis*, both of northern distribution, have been collected, no *A. canadensis* has been discovered although it has been diligently looked for. The occurrence of *A. petaloidea* is based upon a single collection in the upper Perkiomen Valley in the vicinity of the South

Mountains. The identification of this species has been confirmed by Prof. Fernald. *A. occidentalis* has been collected twice but in one case the material is not thoroughly characteristic and in the other it consists of difficultly identifiable staminate plants. The county is rather definitely Alleghanian in its plant life, as has been shown through an intensive study of the flora for a number of years, and the occurrence of *A. canadensis*, which Mr. Long in his article has shown to be of Canadian association, is hardly to be expected here unless it be found to occur as an isolated extension, as is apparently the case in the county with the above mentioned species.

The Mauch Chunk region, however, contains a much more definite Canadian element in its plant associations. *A. canadensis* occurs there in at least three stations while careful search has not revealed its presence in Lehigh county. *A. Parlinii*, though, has been collected only at a single station near Mauch Chunk, and none has been noted in the mountain country explored to the northward, but its wide distribution in Lehigh county is known by a series of collections from the vicinity of the Kittatinny mountains in the extreme north to the upper Perkiomen Valley in the extreme southern portion. All this is rather suggestive of the correctness of Mr. Long's understanding of the life associations of these plants.

ALLENTOWN, PENNSYLVANIA.

The JOSSELYN BOTANICAL SOCIETY OF MAINE will meet at Waterville, August 10, 1915. Headquarters at the Elmwood House. Further notice, with program, will be sent to members and to any persons interested two weeks previous to the meeting.— DANA W. FELLOWS, Secretary, Portland, Maine.

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